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Research Article

Determinants of Land Tenure System Practiced among Farming Households in Moro Local Government Area, Kwara State

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Abstract
This study examined the determinants of land tenure system practiced among farming household in Moro local government area of Kwara state. Specifically, it: examined the type of land tenure system practiced among the farming household; and examined the factor determining the type of land tenure system practiced among the farming households. Data were obtained from primary sources with the aid of an interview schedule. Analysis of data was carried out with descriptive statistics and multinomial regression analysis. It was found that land acquisition was predominantly (76.0%) through inheritance and inferably, most of the respondents owned the piece of land they used for farming. On the factors affecting the type of land tenure system practiced; farming experience and farm size significantly affect the likelihood of choosing inherited land over communal land, the educational level increases the likelihood of choosing purchased land over communal land, the age of the farmers, and the farming experience of farmers were positive factors determining the use of gifted land tenure system over communal land. Likewise, farm size, age and farming experience were found to be key determinants for the use leased tenure system. Since the majority of farmers own their farmland, soil improvement practices that will improve productivity should be imbibed.

Keywords: *Determinants, Households, Productivity, Tenure system*

Introduction

Land is an important index of man's wealth and economic activities. It is a means to mitigate the manifestation of food deprivation and a significant factor in the achievement of food security, poverty alleviation and sustainable development. In Nigeria, the productivity role of land is dictated and controlled by the tenure system and the sizes of the land. According to Adams *et al.* (2019), land tenure system can be defined as the rights and institution that governs access to and use of land. It is often interchangeably used as land ownership. Tenure system of land involves a system of rights, duties and responsibilities concerning the use, transfer, alienation and ownership security of land and its resources (Oluwatayo *et al.*, 2019). Land tenure plays one of the vital roles in shaping land use decision for both farm and off farm enterprises. The accessibility of most agricultural lands especially in Nigeria depends largely on land tenure system and the extent of competition by non-agricultural land uses (Shittu *et al.*, 2018).

Ownership and rights to land may be permanent, semi-permanent or temporary and these depend on the mode of acquisition. Ebe *et al.* (2018) classified land ownership in Nigeria broadly into three main classes, namely; communal, individual, and public ownership. Communal land is such that is held under an arrangement that provides for joint or communal use of land.

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For individual tenure, land is available to the individual owner for agricultural purpose, but may be given out to other farmers on a rental basis, especially for cultivation. Public (state-held) lands are usually made available to individuals or private investors, cooperative societies and other organizations or groups of individuals on request if approved by the State. Given this background, understanding the land tenure system will enhance the activities toward agricultural improvement.

Many studies (Abayomi, 2007; Raufu and Adetunji, 2012; Henri-Ukoha *et al.*, 2011;) have been carried out on land related issues in Nigeria over the years. Abayomi (2007) worked on determinants of agricultural land expansion in Nigeria using error correction modeling approach, his study revealed that livestock population, agricultural production index, human population and cereal cropland growth rate have significant influence on agricultural land expansion. Raufu and Adetunji (2012) carried out a study on determinant of land management practices among crop farmers in south-western Nigeria and found out that education at secondary and tertiary level has significant impact on land management practices while the livelihood strategy of the household head has limited impact on land management practices. A study by Idoma and Ismail (2014) identified inalienability, insecurity of tenure system, land fragmentation and atomization of holdings due to customary law of inheritance as factors responsible for the growing small scale and subsistence farming systems in Nigeria. Henri-Ukoha *et al.* (2011) in their study on the determinants of access to landholding in female-headed cassava farming households in Abia State found out that income, farming experience, age, level of education, land prices, access to credit, asset size and location of farmland were factors determining access to landholding by female headed households. However, none of these studies focused on the determinants of land ownership among farmers. Therefore, the thrust of this study is to examine the effect of socio-economic characteristics of farmers on choosing farmlands and existing type of land tenure in the study area.

Materials and Methods

The study was carried out in Moro Local government, Kwara State. Kwara State is located in Nigeria's north-central geopolitical region. The state is between the latitudes 8° 30′N and longitude 5° 00′E (NBS, 2016). Kwara State has a total population of 2,365,353 and the vast majority of individuals work in small-scale farming (NPC, 2006). The state is bordered by Niger State to the north; Oyo, Osun and Ekiti States to the south, Kogi State to the east, and Benin Republic to the west (figure1). The annual rainfall ranges from 1000 to 1500 millimetres. The typical temperature is between 30 and 35 °C (Ajibade and Ojelola, 2004).

Two-stage sampling technique was used in the selection of the respondents for this study. The first stage involved the purposive selection of Moro Local Government based on the prominence of farming households and the existence of various land tenure system in the area. The second stage involved a random selection of 25 household heads from each of 5 wards of Moro local government to make a total of 125 respondents. The wards include: Omoni-etile, Shao, Asomu, Elemere and Bode-Saadu.
Multinomial regression model was used to analyse the factors determining the choice of selecting type of land tenure system practiced among the respondents. Multinomial is more appropriate for this analysis being that it provides more robust information about the estimated parameters by utilising the sample size of all outcome groups in the likelihood estimation of the parameters and variance than binary logistic regression which only uses the sample size of the dichotomous outcome categories in the likelihood estimation of the parameters (Bourguignon *et al.*, 2007).

The model is expressed as:
$Y_{ij} = \beta jXij + eij$
Where,
Y_{ij} = denote the 5 types of land system (j = 1, 2, 3,4,5) respectively.
Bj = is the coefficient
Xij = factors that determine the choice of a particular land tenure system, explicitly stated as:
X_1 = Household size (numbers)

X_2 = Age of respondents (years)
X_3 = Farming experience (years)
X_4= Farm size (acre)
X_5 = Education level (years of schooling)
Ɛij = error term

Ceteris paribus, it is expected that the selected explanatory variables should exert greater influence on farmers' decision in choosing land tenure system that is best suitable for their farming activities. Alabi *et.al.* (2020) reported some of these variables to have influenced famers' accessibility and utilization of land in agarian communities.

A cross sectional data was collected from randomly selected respondents in September 2021 through interview schedule and the study made use of Statistical Package for Social Science (SPSS) for the data analysis.

Results and Discussion

Socio economic characteristics of respondents

Result of the socio-economic characteristics of respondents is presented in Table1. 81.6% of the respondents were males while only 18.4% were females. This implies that the male gender were more prominent than the female counterpart among the farming household in the study area. This result agrees with the finding of Bamire (2010) who reported that majority of the farmers in the dry savannas of Nigeria were males. Most of the respondents were within the age bracket of 51- 60 years (34.4%) with only few falling within 21-30 years. The mean age of the respondents was approximately estimated to be 50 years. This implies that the farmers were still within their active and economic age bracket. The result concurred with the study of Iorlamen *et al*. (2013) who found that majority of farmers in Nigeria fell within the age bracket 41- 60 years. In relation to marital status, 92.2% of the respondents were married while the remaining ones were single. Being a married person in a rural community indicates high level of social responsibility and may consequently motivate an individual to engage in farming activities in order to cater for his family. This agrees with the findings of Yusuf *et al.* (2020) who stated that rural farmers were mostly married. For the household size, 64.8% had family size of 6 -10 persons and only few (2.4%) had family size of 16 -20 persons. The average size of the household was 8 persons, indicating that the respondents had moderately sized family members. This is desirable and of great importance to rural households as they rely more on their family members than hired laborers in their farming activities, thereby reducing their cost of labourers in the production activities. The size of households can influence farmers choice of appropriate land tenure as rational farmers with large household size will prefer to operate their farming activities on the type of land tenure that is relatively larger and readily available for the size of farm that can cater for their family size. Farmers' level education plays a vital role in making decision about farm resource utilization including land. One third (33%) of the respondents had primary education, 18% had secondary education and only 4% had tertiary education while majority (39%) had no formal education. This result suggests that majority of the land users in the study area do not have adequate educational background as only few had post-secondary school level of education and this may result to their clingy to the traditional methods of farming, thus reducing the agricultural productivity of the land. Majority (86.4%) of the respondents operate their farm with 1-10 acres, with only few (4.0%) operating with 21-30 acres of land. The Average acre of land cultivated was 7.2 acres. This implies that the respondents operate at small scale level and this may have implication on the choice farm land. This finding is in tandem with the result of Ehirim *et al.* (2015). Greater proportion of the respondents (24%) had farming experience of 21-30 years, about 21% had 31- 40 years 'experience, and only few (10.4%) had experience of over 50 years. This implies that the farmers were relatively experienced to carry on with their production activities. Things being equal, it is expected that the farming experience of a farmer enables him to acquire practical and relevant farming knowledge which drive his ability to efficiently utilize available resources with discretion and choose the best type of land tenure suitable for his farming enterprise.

Types of land tenure system practiced among farming households

Table 2 shows the result of the types of land tenure system practiced among farming households. Land acquisition through inheritance was the predominant means of obtaining land accounting for 72.80% of the total respondents, followed by land acquisition through leasing (18.4%). Land acquisition through purchase and gift are the least percentage with 1.60% and 3.2% respectively. These findings may be simply because the study area is situated in Agarian settlements where land ownership is handed over from generation to generation by means of inheritance and leasehold system. About seventy eight percent (77.6%) of the respondents had full ownership of land while the remaining 22.40% who acquired their land either through lease or communal land did not have full possession of the farm land. By implication, most farmers have the opportunity of improving their land and plant the type of crops they wish on their land since the fear of revocation by landlord is removed. This corroborates the work of Oluwatayo *et al.* (2019) and Adesida *et.al.* (2021) who reported that inherited land constitutes the bulk of land acquisition among Nigerian rural populace and by extension most farmers have full ownership of their farm land.

Determinants of the land tenure system practiced among farmers

Table3 presents the result of the multinomial analysis of the factors determining the choice of land ownership type among the respondents. Kind of land ownership system considered includes land ownership by inheritance, by purchase, by gift and through lease/rent. Communal land was considered as a references category to other kinds of land ownership system. The choice of inherited land over communal land for farming activities by the respondents was significantly influenced by farming experience and farm size at 5% and 1% respectively. This implies that an increase in farming experience and farm size increases the probability of choosing inherited land relative to communal land. This could probably be because communal land is less accessible and more fragmented, in terms of allocation to farmers, than the inherited land and consequently experienced farmers that operate on relatively large scale prefer such inherited land than the communal one. The finding corroborates Alabi *et al.* (2020) who reported that farming experience influenced land access for agricultural activities in an area where most farmers operate their farms on inherited land. On the other hand, the use of inherited land was negatively and insignificantly affected by respondents' age. This implies that an increase in age decreases the likelihood of farmer using inherited land over communal land for his farming activities. The household size coefficient is positive and has an insignificant relationship with the likelihood of choosing to farm on inherited land over communal land, indicating that an increase in household size increases the chances of choosing inherited land over communal land. This may be due to the fact that communal land may not be sufficient to produce food required for the household with larger members. The finding also revealed that education had a positive but insignificant relationship with the likelihood of using inherited land in relation to communal land. By implication, an increase in level of education of a farmer, increases the likelihood of choosing inherited land relative to communal land. This suggests most educated people prefer to farm on the cheaper source of land since no rent is paid on inherited land. The result agrees with Pauw and Thurlow (2011) who reported that most educated farmers choose to practice farming on less costly land which enable them to increase their agricultural production at low cost.

In relation to purchased land tenure system, there is positive relationship of the household size, farming experience, level of education and farm size with the likelihood of choosing purchase land relative to communal land but only level of education and farm size were significant at 5% level of probability. By implication, the larger the household size of respondents, the greater the chances of using purchase land for farming relative to communal land. Likewise, the highly educated a farmer is, the greater the propensity of choosing to farm on purchased land rather than on communal land. Also, the bigger the farm size the greater the probability of choosing to farm on

purchased land rather than on communal land. This is in tandem with Lisa and Christoph (2022) who reported that despite the expensiveness of purchased land, a well informed and resourceful farmer who operates with large acreage of land prefers farming on purchase land due to problems of eviction and reallocation that are associated with most land tenure systems. Age of the farmer had negative but insignificant influence on the likelihood of choosing purchased land over communal land, implying that older farmers were less likely to prefer communal land to purchased land for their farming activities.

As regards the lease land tenure system, all the determinants had positive influence on the likelihood of using lease land system for farming with only the farm size, farming experience and age being significant both at 5% level of significant. This shows that older farmers with larger farm size and higher level of farming experience are more likely to choose leased land over communal land.

For farmers who use gifted land for their farming system, result shows that this system of land ownership was positively and significantly affected by respondents' age and the farming experience at 5% level of significant respectively. This shows that an increase in the age of the farmers increases the likelihood of choosing gifted lands over communal land. The household size had a negative and significant influence on likelihood of farming on gifted land over communal one at 1% level, indicating that farmers with smaller household member prefer farming on gifted land to communal land. Level of education has negative but insignificant relationship with probability of choosing gifted land over communal land, implying that an increases in this variable decreases the propensity of using gifted lands for farming relative to communal land.

Generally, among the determinants considered, age, experience in farming and farm size mostly determine the type of land ownership practiced among the farmers. This is in tandem with the findings by Henri-Ukoha *et al.* (2011) on their study on landholding among female-headed cassava farmer in Abia State. The fitness of the model is adjudged by the value Pseudo R^2 indicating 68% explanatory power of the independent variables in the model and chi^2 parameter that is significant at 5% level of probability which implies that the fitness of the model is statistically significant.

Conclusion and Recommendations

Based on the outcome of the research findings, it is concluded that agricultural land users in Moro LGA are moderately aged and experienced farmers with low level of education. A larger proportion of the farmers used their own land which could be inherited, gifted or purchased for crop cultivation and only few farming households did not own their farm land. The likelihood of choosing a particular land for farming is mostly influenced by age, farmers' experience in farming and farm size.

Since majority of farmers owned their farm land, it is therefore recommended that soil improvement practices that will improve productivity should be imbibed as the fear of being evicted of their land after soil improvement is not envisaged. The existing level of education was found to be low but played significant role in farmers' choice of land tenure system, therefore, farmers should improve their level of education so as improve their knowledge of best land tenure practices that can enhance their farming activities. Lastly, policy makers should critically consider the socio-economic characteristics of the farming household when formulating any agricultural land related policies to enhance proper decision making by smallholder farmers on the choice of land tenure system that may led to sustainable agricultural production

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Table1: Socio Economic Characteristics of Respondents (n=125)

Variable	Classes	Frequency	Percentage	Mean
Gender	Male	102	81.6	
	Female	23	18.4	
Age	21-30	14	11.2	
	31-40	22	17.6	
	41-50	27	21.6	49.57
	51-60	43	34.4	
	61 and above	19	15.2	
Marital Status	Married	124	99.2	
	Single	1	0.8	
Level of Education	Primary	41	32.8	
	Secondary	23	18.4	
	Tertiary	5	4.0	
	No Formal Education	49	39.2	
	Adult Education	7	5.6	
Household Size	1-5	25	20.0	
	6-10	81	64.8	
	11-15	16	12.8	8.30
	16-20	3	2.4	
Farm Size (acres)	1-10	108	86.4	
	11-20	12	9.6	7.24
	21-30	5	4.0	
Farming Experience (years)	1-10	20	16.0	
	11-20	13	10.4	
	21-30	30	24.0	
	31-40	26	20.8	32.85
	41-50	23	18.4	
	≥51	13	10.4	

Source: Field Survey, 2021

Table 2: Distribution of respondents by method of land acquisition and ownership

Land Acquisition	Frequency	Percentage
Inheritance	91	72.80
Purchased	2	1.60
Gift	4	3.20
Lease	23	18.4
Communal Land	5	4.00
Total	**125**	**100**
Land Ownership		
Owned	97	77.60
Not- Owned	28	22.40
Total	**125**	**100**

Source: Field Survey, 2021

Table 3: Multinomial logistic model of factors determining the choice of land tenure system practiced among the farming households.

Type of land Ownership	Coefficient	Standard Error	P-value
Inherited			
X_1 (Age)	-1.629	507.198	0.499
X_2 (Household size)	0.295	0.799	0.712
X_3(Farming Experience)	2.915	1.386	0.035**
X_4 (Education)	0.748	1.071	0.485
X_5(Farm size)	29.431	.005	0.000***
Purchased			
X_1 (Age)	-3.259	1014.396	0.997
X_2 (Household size)	0.637	1.093	0.560
X_3(Farming Experience)	0.020	0.240	0.986
X_4 (Education)	2.869	1.295	0.027**
X_5(Farm size)	1.215	0.577	0.038**
Leased			
X_1 (Age)	2.09	0.91	0.03**
X_2 (Household size)	0.111	0.307	0.718
X_3 (Farming Experience)	2.60.	1.20	0.02**
X_4 (Education)	2.184	14.884	0.883
X_5 (Farm size)	1.087	0.431.	0.012**
Gifted			
X_1 (Age)	0.652	0.262	0.016**
X_2 (Household size)	-19.578	.030	0.001***
X_3 (Farming Experience)	1.619	0.769	0.032**
X_4 (Education)	-0.111	0.307	0.718
X_5 (Farm size)	-1.399	2.959	0.636
LR chi2(28)	344.21		
Prob > chi^2	0.03		
Pseudo R^2	0.68		
Log likelihood	-59.15		

Source: Field Survey, 2021. The reference category is communal land tenure system

Figure 1: Map of Kwara State Showing the Local Government Areas